

from these defilements, than half a dozen convictions and sentencings by the law courts.

Though I have already drawn out this note to a greater length than I designed, I ought not to omit the injunction of deferring the operation until after the period during which the ovum is covered up completely within its capsule called the decidua. Now, it is known that the whole ovum escapes from its deciduous investment or capsule at the one hundred and fifth day, or thereabout. If one would force on an abortion before that date, the deciduous capsule, which consists of the tubular glandular mucous membrane of the womb, must inevitably be ruptured or wounded, which is equal to a wound of the womb itself; but, after three and a half months the ovum, which is at that period wholly escaped from the decidua-capsule, may reasonably be expected by means of the colpeuryxis to be expelled whole and unbroken, in which case the risk to the woman is much diminished, not only because the entire product of the conception is thus eliminated, but also because no needless and hazardous violence is done to the membrana decidua.

I am, my dear sir,

With the sincerest regard,

Your friend and servant,

CH. D. MEIGS.

ART. V.—*On the Treatment of Variola.* By CHRISTOPHER J. CLEBORNE, M. D., Ass. Surg. U. S. N.

DURING the early part of 1861, having a number of cases of smallpox under my care, I had a fair opportunity of testing the efficacy of the general plan of treatment recommended in this paper. Most of the cases occurred in the southern portion of the city, and amongst the poorest class of people, the greater number of whom, owing to the present unfortunate troubles of the country, were unable to obtain employment, and in consequence lived in the greatest state of destitution. I mention this fact to show that in many instances the chances of recovery were considerably lessened, and even after the disease had run its course, convalescence was necessarily retarded from a want of proper food and attention. Notwithstanding these disadvantages, out of forty-three cases of confluent variola treated by the administration internally of the chlorate of potassa, and the local application of the plasma potassii iodidi, but three cases terminated fatally. It may be well to state here, that of thirty seven cases of which the writer took notes, six had been previously vaccinated, and the scars were still visible.

1 had been vaccinated 23 years previously.

1	"	"	15	"	"
1	"	"	9	"	"
2	"	"	5	"	"
1	"	"	2	"	"

31 were unvaccinated.

This table proves, to some extent, that vaccination is not in all cases a certain protection against the disease, and that its protective influence cannot be depended upon for any specified time.

In two instances the disease was ushered in by convulsions; another case presented some of the symptoms of meningitis, which ceased immediately upon the appearance of the eruption. One patient (a female) complained of excruciating pain in the course of the spine, a complete loss of voice, and severe circumorbital pain, accompanied by excessive sensitiveness of the eyes, when exposed to light. The rest of the cases presented the usual premonitory symptoms of the disease.

The writer did not meet with a single case of variolous ophthalmia, but observed that when the efflorescence was of a dark or livid colour, accumulations of pseudo-membranous matter in the mouth and fauces, painful furuncles, and obstinate diarrhœas, were more apt to occur in the course of the disease. It has been said, that the effect of the contagion of variola does not depend upon the particular grade of the communicating case, and the truth of this observation was exemplified in two cases of the confluent form, both of which were contracted from a mild case of diffuent variola in the stage of convalescence.

In one of the vaccinated cases, notwithstanding the copious eruption, no secondary fever appeared, and the disease ran its full course in thirteen days; afterwards a severe diarrhœa set in which finally yielded to the liquor ferri pernitratidis in the usual dose.

I will now pass to the consideration of the various topical agents, which have heretofore been found to answer best the purpose for which they were proposed, and will then briefly state the principal objections to their use.

The Arabian physicians adopted the plan, of opening the pustules with a finely pointed instrument, squeezing out their liquid contents, and then washing them with warm milk and water or some anodyne lotion; this method though tedious, was very successful. Dr. G. B. Wood has suggested the opening of each vesicle by means of a sharp probe or lancet, and then touching them with a finely pointed stick of nitrate of silver. (*Practice of Med.*, vol. i. p. 402.) Bretonneau and Serres recommend the nitrate of silver in solution, applied over the whole surface, but it has been found that suppuration continues under the blackened cuticle, allowing the ulcerative action of the confined matter to continue undisturbed. This is the great objection to the use of collodion, or other applications of a similar nature. Involving the pustules in olive oil, or honey, and covering

them with small coloured glass cups, so as to exclude air and light (Serres, *L'Union Médicale*, 1848) has not been found to answer in practice. Dr. Bennett, of Edinburgh, has used calamine and olive oil, with some success. Iodine was first used for this purpose, by Crawford, of Montreal, and has been found useful in the hands of many practitioners. Broussais speaks very highly of the use of blisters, and more recently Mr. Startin, of London, succeeded in producing abortion of the pustules, by touching them with acetum cantharidis (L. Ph.) until a blister was produced. The use of mercurial ointment for the purpose of producing a resolution of the papulæ, or to abort the pustules, was first recommended by Briquet, and has been found more effectual perhaps than anything else; many objections are made to its use. The danger of salivation when used for any length of time, its unsightly appearance, the difficulty found in removing the unctuous matter from the surface of the skin and the soiling of the linen and bedclothes, thus adding to the discomfort of the patient, have caused it to be superseded by glycerin, which has been found less disagreeable, and quite as effectual in its application. I need hardly say, that similar objections may be made to the use of sulphur and other ointments, while the pain arising from the application of the nitrate of silver or blisters will prevent their being used in most cases for this purpose.¹

It is now, I believe, conceded by all dermatologists, that the cause of pitting in smallpox is due to the disintegration of the derma or true skin, by the corrosive action of the virus contained within the pustule, or, more properly speaking, to that portion of matter inclosed in a small sac, in the centre of the pustule. The writer is inclined to believe, from observation, that this lesser sac is formed from the disk of whitish pseudo-membranous matter found on the upper surface of the derma, and which in the earlier stages of the eruption is adherent to the inner surface of the cuticle, and less firmly attached to the cutis beneath. During the progress of the eruption, a clear albuminous fluid is exuded, which in a short time becomes turbid, and is finally converted into pus. This liquor gradually separates the disk from the true skin, and from its attachment to the epiderma, after which the edges of the disk unite together, or more frequently to the inner surface of the cuticle, inclosing within the sac thus formed a purulent matter, arranged in minute cells like an orange. This matter being more acrid than the fluid by which it is surrounded, is said to be the cause of ulceration of the tissues, or pitting. To obviate the effects produced by this acrid matter, we must endeavour to prevent maturation of the pustules, or by some means get rid of their contents, before ulcerative action takes place.

The resolvent properties of the iodide of potassium suggested it to the

¹ [For some interesting remarks on various modes of preventing pitting in smallpox, see preceding No. of the Journal, p. 229.—EDITOR.]

writer as an agent from which might be derived all the advantages heretofore obtained from the use of mercury, iodine, or blisters. He has been much pleased with his success in the use of this remedy as an external application, and is convinced of its value from observation and experience.

In recommending the following formula to the notice of the profession the writer begs to claim for it a fair and impartial trial; having found it successful in his own practice, he is the more confident of its good effects and success in the hands of more skilful and experienced practitioners: \mathcal{R} . Potassii iodidi $\mathfrak{Z}\text{xij}$; maranta $\mathfrak{Z}\text{j}$ and $\mathfrak{D}\text{j}$; glycerin $\mathfrak{f}\mathfrak{Z}\text{ij}$; ol. bergamii gtt. xl. Divide the glycerin into three equal parts; in the first portion dissolve the iodide of potassium, using heat if necessary, and add the oil of bergamot; put the second portion of the glycerin into a porcelain capsule and heat it over a water bath; then mix with the remaining portion of the glycerin the arrowroot, triturate well in a glass mortar, and gradually add it to the boiling glycerin while cooling; it should be stirred with a glass rod continually and the solution of iodide of potassium added by degrees, until the mixture becomes of a transparent appearance and of the consistence of jelly.

The plasma may be applied by means of a camel's-hair pencil, of the size usually sold as throat brushes. As soon as the eruption makes its appearance it should be used, and repeated applications made throughout the day and night. A mask of oiled silk may be placed over the face, but is not by any means necessary. The face may be cleansed when the pustules burst by sponging with tepid water; it would be well to do this frequently for the sake of cleanliness, the comfort of the patient, and the success of the application.

The strength of the preparation should be increased or decreased as the practitioner sees fit, and according to the circumstances of the case, the age and tenderness of the skin being at all times considered. To the discutient properties of the iodide of potassium may be attributed its effect in producing a resolution of numbers of the indurated papulæ, while at the same time it checks the advance of others into the vesicular stage, its good effects upon the eruption in the advanced stages is due to its producing a partial solution of the epiderma, so that when the pustule is fully formed, the pus contained therein can easily burst through the softened cuticle, and by this means the ulcerative action of the virus on the cutis vera is effectually prevented.

I will now proceed to make a few remarks upon the internal administration of the chlorate of potassa in the treatment of variola.

On discovering the nature of the disease, I commence the treatment by giving the powdered chlorate of potassa in doses of one to two drachms every two hours, mixed with honey, or in combination with the effervescing draught or neutral mixture. The writer is aware that the use of heroic doses of this salt may be considered by some as unnecessary and likely to

produce injurious consequences, especially when continued for a length of time, but this has not been his experience; on the contrary, he has given it in half ounce doses frequently repeated, and always with the happiest effect. In fact, experience daily proves to us that in order to obtain the proper effects of nearly all medicines, they must be administered in much larger doses than is at present done.

During the whole course of the disease I continue the use of the chlorate of potassa, but decrease the dose on the return of the secondary fever. I find that it answers all indications, and besides its refrigerant effects it acts also as a tonic, giving new vigour to the enfeebled system.

The painful excoriation and plugging up of the nostrils of young infants may be remedied to some extent by an early and daily use of a solution of tannin in glycerin, applied to the inner surface of the nostrils.

To relieve constipation, the bisulphate of potassa is preferable to any other cathartic on account of its tonic effects, and mild yet efficient action. In the obstinate diarrhoeas which sometimes set in, the writer has found the liquor ferri pernitratis succeed after other astringent remedies had failed.

The solution of chlorinated soda recommended by Dr. G. B. Wood, is the best application that can be made to the pseudo-membranous matter in the fauces.

Baths containing vinegar are of use in preventing contagion, and become very grateful to the patient.

During the course of the disease, the diet should be light and nutritious; and after the fourteenth day small doses of quinia and proto-carbonate of iron, or nux vomica and tincture of the chloride of iron may be given. Excessive restlessness or pain may be relieved by syrup of lactucarium or an opiate.

Among other essentials may be mentioned a large well-aired room, rest, and a lightly-covered bed.

ART. VI.—*On Fracture of the Astragalus.* By JOHN ASHHURST, Jr., M. D., Resident Surgeon to Pennsylvania Hospital.

ON Sunday, the 17th of November, 1861, a man was admitted into the Pennsylvania Hospital, suffering from an injury equally serious and unusual. He had been drinking to great excess for about a month before his accident, and in a dream, during his drunken sleep, jumped from the window of his room, in the fourth story of a lodging-house, alighting squarely on his feet, and subsequently on his right hip.

When I first saw him, a few hours after his fall, the right foot was much swollen, with a great subcutaneous effusion above and in front of the external malleolus. Below, and slightly posterior to the malleolus